

Claims

What is claimed is:

- 5 1. A lung demand valve device for use with breathing apparatus, for delivering breathable gas from a pressurised supply to a user wearing a face mask, for inhalation, the device comprising
 - 10 a body in which is housed a valve member, for controlling the rate of delivery of the breathable gas,
a movable diaphragm having a first face exposed to pressure within the body and a second face exposed to pressure outside the body, the diaphragm being responsive to the differential in pressure between its first and
15 second faces to control the valve member,
and a duct arranged to direct exhaled air towards said second face of said diaphragm.
- 20 2. A device according to Claim 1 wherein the device is detachably mountable on a mask of a breathing apparatus.
3. A device according to Claim 1 wherein the device is permanently attached to a mask of a breathing apparatus.
- 25 4. A device according to Claim 1 wherein the device is integral with a mask of a breathing apparatus.
5. A device according to Claim 1 wherein the duct portion is arranged to abut an exhalation port of a mask.
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6. A device according to Claim 1 wherein the duct is arranged to direct exhaled air to a region surrounding the second face of the diaphragm, so as to flush ambient gases from said region.
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7. A device according to Claim 1 wherein the device comprises a cover member arranged to extend around the

device for preventing the ingress of dirt into the housing, and wherein the duct comprises a portion of said cover.

8. A device according to Claim 7 wherein said cover
5 comprises a plurality of portions which portions are detachably fixed together.

9. A device according to Claim 1 wherein the device
10 comprises locating means arranged to co-operate with a mask to inhibit rotation of the device relative to a mask.

10. Self-contained breathing apparatus including a lung demand valve device according to Claim 1.

15 11. A lung demand valve suitable for use in a self contained breathing apparatus, in which fluid for breathing is conveyed to a user on inhalation, the lung demand valve comprising:

20 a first fluid path,
a second fluid path,
a flexible diaphragm, separating the first and second fluid paths, and wherein the second fluid path is open to the atmosphere.

25 12. A cover suitable for use on a lung demand valve for a self contained breathing apparatus, in which fluid for breathing is conveyed to a user on inhalation, in which the lung demand valve comprises:

30 a first fluid path, and
a diaphragm, enclosing at least a part of the first fluid path,

wherein the cover provides the lung demand valve with a second fluid path, so that the first and second fluid paths are separated by the diaphragm, and the second fluid path
35 is open to the atmosphere, and wherein exhaled fluid is directed along the second fluid path to the diaphragm.

13. A self-contained breathing apparatus in which fluid for breathing is conveyed to a user on inhalation, the apparatus comprising:

5 a face mask, connected to a lung demand valve, and worn by the user,

a high pressure cylinder containing the fluid for breathing,

a hose for conveying fluid from the cylinder to the lung demand valve, wherein the lung demand valve comprises:

10 a first fluid path for conveying fluid for inhalation to the face mask,

a second fluid path for conveying exhaled fluid from the face mask to the atmosphere, and

15 a flexible diaphragm, separating the first and second fluid paths, wherein exhaled air is directed to the diaphragm.